



MANUAL TRANSFER SWITCHES - INSTALLATION MANUAL

Models: 15114, 30114, 20216, 30216, 30508, 302110

Tools Needed for Installation:

- Electric Drill
- Screwdriver
- Hammer
- Wire Cutter and Stripper
- 4, 6, 8, or 10 Yellow Wire Connectors
- 4 Anchors and Screws

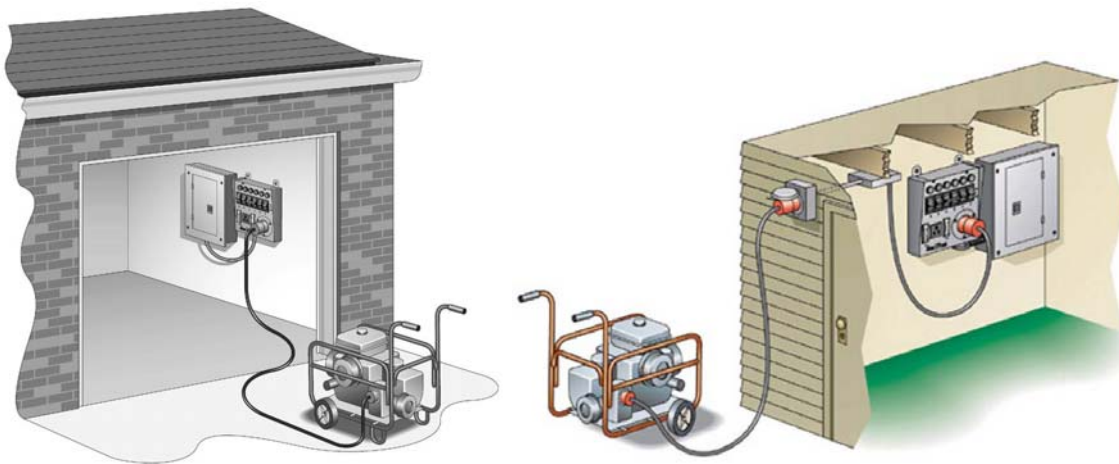
Key Components:

Switches for Circuit Selection – These switches allow you to select either utility (LINE) or generator (GEN) as the power source for the circuits that have been wired through the Gen/Tran transfer switch. The OFF position is not generally used, and a switch in this position will remove that circuit from both the utility line and generator power.

Convenience Outlet – Operates from Circuit A, and is energized whenever the generator is operating and connected to the Gen/Tran transfer switch regardless of Circuit A switch position.

Circuit Breaker – Each Gen/Tran circuit has a 15-amp push-to-reset circuit breaker that is active when the Switch is in the GEN position. In the LINE position, each circuit is protected by the breaker in the load center. *(NOTE: Models 302110 and 30508 may be shipped with 20-amp breakers in the 2-pole circuit positions (circuits with handle ties). These circuits MUST be connected to 20 amp circuits in the house panel.)*

Wattmeters – Indicate the circuit loads, in watts, when the generator is supplying power. The left meter measures the load on circuits A-B-C (6-circuit), A-B-C-D (8-circuit), ABCDE (10-circuit) and the right meter measures the load on circuits, DEF (6-circuit), EFGH (8-circuit) and F-G-H-I-J (10-circuit).



Preparing for Installation:

- Be sure to have all tools listed above.
- Transfer switch can be installed on either the left or right side of your house electrical panel (also called load center). Hold the Gen/Tran transfer switch up to the wall about 18" from the center of the load center to ensure adequate room. Remove the cover of the load center. CAUTION: All wires are live inside load center! MAIN circuit breakers should be turned off to ensure safety. Remember, all wires on "line" side of main are still hot.
- Locate and remove a knockout (KO) in the bottom of the load center near the center, if possible. Use a 3/4" (trade size) KO for models 20216 and 30216, 1/2" KO for model 15114, and use 1" KO for 10-circuit models.
- Insert all wires from Gen/Tran transfer switch at end of flexible conduit through KO, and install connector securely.
- Anchor transfer switch to wall using the external feet. Do not overbend flexible conduit.

Wiring the Gen/Tran Transfer Switch to the Load Center:

1. Determine which circuits you will want to use during an emergency (see wattage listing). Choose 6 circuits if you are installing a 6-circuit transfer switch, choose 10 circuits if installing a 10-circuit unit, and so on. We suggest you wire the most critical circuits first, starting with "A".
2. Assuming you want to designate your Furnace as "A", turn the Furnace circuit breaker OFF, and loosen the screw which secures this wire into the circuit breaker, and remove wire.
3. On the Gen/Tran transfer switch, find the Black and Red wires marked "A". Feed these two wires to the selected breaker (Furnace). Cut Red wire "A" to a convenient length, strip approximately 5/8", install in circuit breaker, and retighten screw. Take Black lead "A", cut to convenient length to match up with wire removed from circuit breaker. Strip 5/8" and insert both wires into yellow wire connector. Twist on tightly, push wires back into side of box.
4. Repeat steps 2 and 3 above to wire remaining circuits. (If you are installing a model 15114, follow steps for B, C, and D circuits, and move to Step 7.
5. To install the handle tie on the 240 volt circuit(s) on the 6-, 8- or 10-circuit models, locate the Red and Black wires for the circuits with the handle tie. Turn off the 2-pole breaker in the load center, and remove wires as above. Feed wires from handle-tied switch(es) to the 2-pole breaker as above. Cut and strip 5/8". Insert red wires in breaker and tighten. Black wires connected as above.
6. If you have no 240-volt circuits in your load center, the double pole handle-tied circuit(s) on the Gen/Tran transfer switch are not needed. Turn the handle-tied switch(es) to the GEN position. Loosen the two screws on the handle tie, remove the handle tie, and discard. These circuits can now be used as 1-pole circuits as you select.
7. Once you have wired all circuits in the Gen/Tran switch, only the White neutral wire and Green ground wire remain. Insert the White neutral wire into an unused hole in the neutral bar in the load center and tighten. Then insert the Green ground wire into an unused hole in the ground bar, if existing, and tighten. If no ground bar exists, insert the Green wire into an unused hole in the neutral bar and tighten.
8. Replace the cover to the load center. Fill in the chart on the top of the Gen/Tran transfer switch to describe your emergency circuits and related circuit numbers in the load center. Turn ON all breakers in the load center, and turn all switches on the transfer switch to the LINE position. Installation is now complete.

Note on Model 30508 Installation: This model has been designed to "hardwire" to a power inlet box located remotely from the Gen/Tran transfer switch. Gen/Tran offers Power Inlet Boxes: Model L1420 for generators with output of up to 5000 watts OR Model L1430 for generators with output of up to 7500 watts. The terminal block located in the wiring compartment of the 8-circuit Model 30508 Gen/Tran transfer switch should be connected to the remote power inlet as follows:

- Gen/Tran Black Terminal: To Power Inlet "X" or "Y" terminal
- Gen/Tran White Terminal: To Power Inlet Neutral "W" terminal
- Gen/Tran Red Terminal: To Power Inlet "X" or "Y" terminal
- Gen/Tran Green Terminal: To Power Inlet Ground "G" terminal

Note on convenience outlet: Most Gen/Tran manual transfer switches have a 3-wire, grounded convenience outlet, to be used for tools or lights near the transfer switch installation during an outage. This outlet is connected to circuit breaker "A" on the Gen/Tran transfer switch, and must be calculated with other load on circuit A.

Using Your Gen/Tran Transfer Switch and your Portable Generator:

To ensure that your generator will always be ready when you need it, it is important to start and run your generator UNDER LOAD regularly and keep the tank filled with fresh fuel. Perform the following steps at least ONCE A MONTH to keep the generator properly "exercised". It is not necessary to turn off any circuits in the Main load center when supplying generator power with the Gen/Tran transfer switch, even when the utility power is operating normally. The double-throw switches prevent backfeeding generator power to the utility and, conversely, utility power to the generator.

Transferring from Utility Power to Generator Power:

- Plug in the female connector of the Power Cord to the Power Inlet Box OR Gen/Tran transfer switch. Be sure that all switches on the Transfer Switch are in the LINE or OFF position.
- Insert the male connector of the Power Cord into the outlet on the generator.
- Start the generator outdoors, following the procedures described in the generator's owner's manual furnished by the manufacturer.
- Select the circuits to be powered by the generator by moving the corresponding Gen/Tran switches to the GEN position. Use only necessary household items when under generator power, and alternate use of larger loads (furnace motors, well pumps, freezers, etc.).
- While in the GEN position, each circuit is limited by the Gen/Tran circuit breaker to a maximum of 15 amps. If you have selected a circuit that draws more than this, it will be necessary to selectively turn off some of the loads on that circuit in order not to exceed the 15 amp capacity of the Gen/Tran circuit breaker. Test your circuits by using the wattmeters or determine wattage from that shown on each appliance. Make a note of any excessive loads which must be removed from a given circuit during generator operation.

Transferring from Generator Power to Utility Power:

1. Return all Gen/Tran switches (A-B-C-D etc.) to the LINE position.
2. Follow the procedures in the generator's owner's manual to turn off the generator.
3. Unplug the Power Cord.